

CLAIMS

1. A method for inspecting a secondary battery precursor including a pair of electrodes and a separator disposed between the pair of electrodes,
5 comprising:
 applying a constant inspection voltage between the pair of electrodes before an electrolyte solution is injected between the pair of electrodes, and measuring a current flowing due to application of the inspection voltage; and
 determining the precursor to be defective if a current value exceeding
10 a previously set reference current value is detected within a time period corresponding to a time period between starting of voltage application when a voltage is applied to a normal secondary battery precursor and obtaining of a constant current.
- 15 2. The method for inspecting a secondary battery precursor according to claim 1, wherein the reference current value is set based on a current when a voltage is applied to a normal secondary battery precursor.
- 20 3. The method for inspecting a secondary battery precursor according to claim 1, wherein a plurality of reference current values are set depending upon time.
- 25 4. The method for inspecting a secondary battery precursor according to claim 3, wherein the reference current values are set at intervals of 1 ms or less.
5. A method for inspecting a secondary battery precursor including a pair of electrodes and a separator disposed between the pair of electrodes, comprising:
30 applying an inspection voltage between the pair of electrodes before an electrolyte solution is injected between the pair of electrodes, and measuring a current flowing due to application of the inspection voltage; and
 determining the precursor to be defective if the current has a value beyond a predetermined allowable range calculated based on a current
35 waveform when a voltage is applied to a normal secondary battery precursor.
6. The method for inspecting a secondary battery precursor according to

claim 5, wherein the inspection voltage is a constant voltage.

7. The method for inspecting a secondary battery precursor according to claim 5, wherein the inspection voltage is increased at a constant speed.

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8. A method for inspecting a secondary battery precursor including a pair of electrodes and a separator disposed between the pair of electrodes, comprising:

10 applying an inspection current between the pair of electrodes before an electrolyte solution is injected between the pair of electrodes, and measuring a voltage due to application of the inspection current; and determining the precursor to be defective if the voltage has a value beyond a predetermined allowable range calculated based on a voltage waveform when a current is applied to a normal secondary battery precursor.

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9. The method for inspecting a secondary battery precursor according to claim 8, wherein the inspection current is a constant current.

20 10. The method for inspecting a secondary battery precursor according to any one of claims 1 to 7, wherein the inspection voltage is less than 75 V per 1 μm thickness of the separator.

25 11. The method for inspecting a secondary battery precursor according to any one of claims 1 to 7, wherein the inspection voltage is less than 35 V per 1 μm thickness of the separator.

12. The method for inspecting a secondary battery precursor according to any one of claims 1 to 7, wherein the inspection voltage is 420 V or more.

30 13. The method for inspecting a secondary battery precursor according to any one of claims 1 to 9, wherein the separator has a thickness of 25 μm or less.

35 14. The method for inspecting a secondary battery precursor according to any one of claims 1 to 9, wherein the secondary battery precursor is a precursor of a lithium secondary battery.

15. A method for manufacturing a secondary battery, comprising:
manufacturing a secondary battery precursor including a pair of
electrodes and a separator disposed between the pair of electrodes; and
inspecting the secondary battery precursor by the inspection method
5 according to any one of claims 1 to 9.

16. A device for inspecting a secondary battery precursor including a pair or
electrodes, and a separator disposed between the pair of electrodes,
comprising:
10 voltage application means for applying a voltage between the pair of
electrodes;
current measurement means for measuring a current flowing due to
application of the voltage;
storage means for storing a reference current value set based on a
15 current when a voltage is applied to a normal secondary battery precursor;
and
arithmetic operation means for performing a predetermined
arithmetic operation using the reference current value stored in the storage
means and a value of the current measured by the current measurement
20 means, so as to determine whether the secondary battery precursor is
defective or not.

17. The device for inspecting a secondary battery precursor according to
claim 16, wherein the current measurement means is an oscilloscope.
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18. A device for inspecting a secondary battery precursor including a pair or
electrodes, and a separator disposed between the pair of electrodes,
comprising:
current application means for applying a current between the pair of
30 electrodes;
voltage measurement means for measuring a voltage generated due
to application of the current;
storage means for storing a reference voltage value set based on a
voltage when a current is applied to a normal secondary battery precursor;
35 and
arithmetic operation means for performing a predetermined
arithmetic operation using the reference voltage value stored in the storage

means and a value of the voltage measured by the voltage measurement means, so as to determine whether the secondary battery precursor is defective or not.

- 5 19. The device for inspecting a secondary battery precursor according to claim 18, wherein the voltage measurement means is an oscilloscope.